

ABSTRACT OF THE INVENTION

A repeater is disclosed in one embodiment of the present invention as including a cylindrical housing, characterized by a proximal end and a distal end, and having a substantially cylindrical wall, the cylindrical wall defining a central bore passing therethrough. The cylindrical housing is formed to define at least one recess in the cylindrical wall, into which a repeater is inserted. The cylindrical housing also includes an annular recess formed into at least one of the proximal end and the distal end. An annular transmission element, operably connected to the repeater, is located in the annular recess. In selected embodiments, the annular transmission element inductively converts electrical energy to magnetic energy. In other embodiments, the annular transmission element includes an electrical contact to transmit electrical energy directly to another contact.